

## California Biosolids Trends in 2012

All values expressed in dry metric tons, 100% dry weight basis.

|   |            |                        |                |
|---|------------|------------------------|----------------|
| Biosolids generated:                      | 680,000    |                        |                |
|   |            |                        |                |
| Use or disposal*                          |            |                        |                |
|   |            |                        |                |
| Land application:                         | 369,000    |                        |                |
|   | Class A**: | 233,000                |                |
|   |            | Compost***:            | 165,000        |
|   |            |                        | In CA: 145,000 |
|   |            |                        | In AZ: 17,100  |
|   |            |                        | In NV: 1,300   |
|   |            | Thermophilic dig:      | 48,000         |
|   |            | Heat dried:            | 11,000         |
|   |            | Air dried, Alt 4:      | 4,000          |
|   |            | Lime treatment, Alt 3: | 5,000          |
|   |            | ATAD:                  | 200            |
|   |            |                        |                |
|   | Class B:   | 136,000                |                |
|   |            |                        | In CA: 65,000  |
|   |            |                        | In AZ: 70,000  |
|   |            |                        | In NV: 1,000   |
|   |            |                        |                |
| Landfill:                                 | 220,000    |                        | In CA: 218,700 |
|   | ADC        | 154,000                | In AZ: 1,000   |
|   | Filled:    | 66,000                 | In NV: 300     |
|   |            |                        |                |
|   |            |                        |                |
|   |            |                        |                |
| Surface Disposal:                         | 20,000     |                        |                |
|   |            |                        |                |
| Incinerated:                              | 19,000     |                        |                |
|   |            |                        |                |
| Fuel for cement kilns:                    | 17,000     |                        |                |
|   |            |                        |                |
| Deep well injection:                      | 10,000     |                        |                |
|   |            |                        |                |
| Stored                                    | 93,000     |                        |                |
|   |            | From current year:     | 25,000         |
|   |            | From previous years:   | 68,000         |
| In long-term treatment<br>(lagoons, etc.) | 35,000***  |                        |                |

Major counties of generation:

|                 |         |
|-----------------|---------|
| Los Angeles:    | 190,000 |
| Orange:         | 58,000  |
| Santa Clara:    | 54,000  |
| San Diego:      | 45,000  |
| Riverside:      | 34,000  |
| Alameda:        | 33,000  |
| San Bernardino: | 30,000  |
| Sacramento:     | 23,000  |
| Contra Costa:   | 23,000  |
| Fresno:         | 19,000  |

Major counties of land application of California biosolids (not including finished compost):

|            | Total  | Class B | Class A |
|------------|--------|---------|---------|
| Yuma, AZ:  | 71,000 | 70,000  | 1,000   |
| Kern       | 62,000 | 9,000   | 53,000  |
| Merced     | 32,000 | 29,000  | 3,000   |
| Sacramento | 22,000 | 19,000  | 3,000   |
| Sonoma     | 9,000  | 9,000   | ----    |
| Solano     | 7,000  | 7,000   | ----    |

Major counties receiving California biosolids for composting:

|                 |        |
|-----------------|--------|
| Kern:           | 88,000 |
| San Bernardino: | 39,000 |
| La Paz, AZ      | 18,000 |
| Merced:         | 12,000 |
| Santa Barbara:  | 4,000  |

Major counties receiving biosolids at landfills:

|              |        |
|--------------|--------|
| Santa Clara: | 68,000 |
| Los Angeles: | 42,000 |
| Solano       | 29,000 |
| San Diego    | 23,000 |
| Alameda:     | 15,000 |
| Ventura:     | 14,000 |

Notes:

\*The tonnages used and disposed are different from tonnages generated because many small and medium sized treatment POTWs store biosolids for several years prior to using or disposing all at once, or clean out lagoons every several years. Also, some POTWs calculate “generation” as

what is coming out of the digester, but then scoop up a lot of sand while removing biosolids from drying beds.

**\*\***Many small and medium sized POTWs in the Central Valley, Imperial County, and Riverside County air dry their biosolids to > 90% solids, and could probably demonstrate Class A using Alternative 4 (testing for three categories of pathogens); however in 2012 they chose options where they only had to demonstrate Class B. About 9,000 tons of the biosolids being applied as “Class B” in Merced County are probably “Class A”.

**\*\*\*** The tonnage given here is the tonnage of biosolids delivered by POTWs to the compost operations. The tonnage of compost produced from this could either be larger or smaller, depending on the amount of bulking agents (greenwaste, foodwastes, etc.) added, and how much organic matter is volatilized off during composting and curing.

**\*\*\*\***Tonnages in long term treatment represent the solids collected in 2012 and undergoing treatment in lagoons, drying beds, etc. These are very rough estimates, based on the POTW’s size, and represent the current year’s estimated production only (the POTW may have several years’ worth in lagoons that haven’t been dredged in some time. The solids continue to break down over the years). Cumulative tonnages in storage are also fairly rough estimates.

Other notes:

These figures do not include tertiary treatment sludge. This sludge has some of the same properties and some different properties than sludge produced from primary and secondary processes.

In 2012, two large regional facilities, the Honey Bucket Farms lime treatment/land application operation in Kern County and the Enertech Slurry Carb / heat dryer in San Bernardino County terminated operations. Two new regional operations started up: Nursery Products Compost in San Bernardino County began composting, and Holloway Landfill in Kern County, which was previously permitted for landfilling other materials, began receiving biosolids.